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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,497	02/20/2004	Peter J. Hayward	647P007	2135

28534 7590 10/17/2006

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EXAMINER	
GREENE, JASON M	

ART UNIT	PAPER NUMBER
1724	

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

a

Office Action Summary	Application No.	Applicant(s)	
	10/783,497	HAYWARD ET AL.	
	Examiner	Art Unit	
	Jason M. Greene	1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,8,9,11 and 13-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6,8,11 and 13-17* is/are rejected.

7)☐ Claim(s) *9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Priority

1. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

This application is claiming the benefit of prior-filed nonprovisional application No. 10/097,921 under 35 U.S.C. 120, 121, or 365(c). However, the claim for priority was not submitted within the time period set forth in 37 CFR 1.78(a) (e.g., during the pendency of the later-filed application and within the later of 4 months from the actual filing date of the later-filed application or 16 months from the filing date of the prior-filed application). Since the claim for priority was not timely submitted, the benefit claim to the prior-filed nonprovisional application is improper. Applicant is required to delete the reference to the prior-filed application from the first sentence(s) of the specification, or the application data sheet, depending on where the reference was originally submitted.

Also, the later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in

the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

The disclosure of the prior-filed application, Application No. 10/097,921, fails to provide adequate support or enablement in the manner provided by the first paragraph of 35 U.S.C. 112 for one or more claims of this application. Application No. 10/097,921 fails to enable claim 9 wherein the reactive binder precursor further comprises at least one ceramic compound that reacts with the element grains.

Response to Arguments

2. Applicant's arguments, see page 6, lines 6-11, filed 22 August 2006, with respect to the 35 USC 102 and 103 rejections over Grangeon have been fully considered and are persuasive. The 35 USC 102 and 103 rejections over Grangeon have been withdrawn. While the Examiner does not agree with Applicants that Grangeon fails to teach reaction bonding (see for example col. 2, line 54), the Examiner does agree that the reference does not teach the binder comprising grains in a non-oxidized state since all of the disclosed binders are metallic oxides.

3. Applicant's arguments filed 22 August 2006 with regard to the Bishop reference have been fully considered but they are not persuasive. As noted above, Applicants

priority claim is improper. Accordingly, Bishop is still prior art against the claims and the rejections are maintained.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1, 3-6, 8, 11 and 14-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Bishop et al. (US 6,695,967 B2)

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With regard to claims 1, 3-5, 8 and 14-17, Bishop et al. discloses a porous ceramic support usable with a gas separation membrane formed by sintering a green body containing refractory grains (alumina) and grains of at least one reactive binder precursor (aluminum metal powder), wherein the refractory grains have a CTE greater than about $8 \times 10^{-6}/^{0}C$, and being reacted with atmospheric oxygen to form a reaction

bond to bind the refractory grains, the mean pore size being greater than 1 μm, wherein the support configuration is a multi-channel monolith, and wherein the size of the refractory grains are 5-200 μm in col. 12, lines 31-67.

With regard to claim 6, Bishop et al. discloses the volume change during sintering being less than about 5% in col. 5, lines 29-31.

With regard to claim 11, Bishop et al. discloses the grain size of the reactive binder precursor (aluminum metal powder) being 1-3 μm in col. 8, lines 53-54.

6. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Bishop et al. (US 6,695,967 B2).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Bishop et al. discloses a method of forming a porous ceramic support comprising making a mixture containing refractory grains of at least one simple or compound ceramic oxide (alumina) and grains of at least one reactive binder precursor (aluminum metal powder), wherein the refractory grains have a CTE greater than about 8 x $10^{-6}/^{0}C$,

forming the mixture into a green body, sintering the green body to react the grains of the reactive precursor with atmospheric oxygen to form a reaction bond to bind the refractory grains, and cooling the sintered body in col. 12, lines 31-67.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1, 3-5, 8 and 13-17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 and 17 of U.S. Patent No. 6,695,967 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other.

With regard to claims 1, 3-5, 8 and 14-17, claims 1-8 of the '967 patent disclose a porous ceramic support usable with a gas separation membrane formed by sintering a green body containing refractory grains (alumina) and grains of at least one reactive binder precursor (aluminum metal powder), wherein the refractory grains have a CTE greater than about 8 x $10^{-6}/^{0}C$, and being reacted with atmospheric oxygen to form a reaction bond to bind the refractory grains, the mean pore size being greater than 1 μm, wherein the support configuration is a multi-channel monolith, and wherein the size of the refractory grains are 5-200 μm in col. 12, lines 31-67.

While the claims of the '967 patent recite features in addition to those of the instant claims (e.g. the surface area of the passageways), the claims of the '967 patent sill anticipate the instant claims. Anticipation is the epitome of obviousness.

With regard to claims 13, claim 17 of the '967 patent discloses a method of forming a porous ceramic support comprising making a mixture containing refractory grains of at least one simple or compound ceramic oxide (alumina) and grains of at least one reactive binder precursor (aluminum metal powder), wherein the refractory grains have a CTE greater than about 8 x $10^{-6}/^{0}C$, forming the mixture into a green body, sintering the green body to react the grains of the reactive precursor with atmospheric oxygen to form a reaction bond to bind the refractory grains, and cooling the sintered body in col. 12, lines 31-67.

While the claims of the '967 patent recite features in addition to those of the instant claims (e.g. the surface area of the passageways), the claims of the '967 patent sill anticipate the instant claims. Anticipation is the epitome of obviousness.

Allowable Subject Matter

9. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

The prior art made of record does not teach or fairly suggest the support of claim 1 wherein the reactive binder precursor further comprises grains of at least ceramic component that reacts with the element grains in the oxidizing atmosphere to form the reaction bond.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

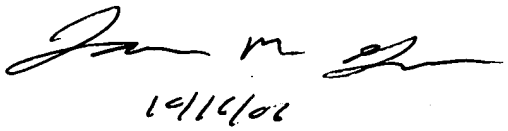
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (571) 272-1157. The examiner can normally be reached on Monday - Friday (9:00 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason M. Greene
Primary Examiner
Art Unit 1724



jmg
October 16, 2006